

AMENDMENTS TO THE CLAIMS:

1. ***(Withdrawn)*** An isolated polynucleotide selected from the group consisting of:
 - (a) a nucleic acid sequence having at least 85% sequence identity to presented as SEQ ID NO:1, or the complement thereof;
 - (b) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an cellulase polypeptide having at least 85% sequence identity to the amino acid sequence presented in Figure 3 (SEQ ID NO:3);
 - (c) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an cellulase polypeptide having at least 90% sequence identity to the amino acid sequence presented in Figure 3 (SEQ ID NO:3);
 - (d) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an cellulase polypeptide having at least 95% sequence identity to the amino acid sequence presented in Figure 3 (SEQ ID NO:3);
 - (e) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an cellulase polypeptide having the amino acid sequence presented in Figure 3 (SEQ ID NO:3);

wherein said isolated polynucleotide encodes a polypeptide having the biological activity of a cellulase and wherein the identity is determined by the CLUSTAL-W program in MacVector version 6.5, operated with default parameters, including an open gap penalty of 10.0, an extended gap penalty of 0.1, and a BLOSUM 30 similarity matrix.

2. ***(Withdrawn)*** An isolated polynucleotide selected from the group consisting of:
 - (a) a nucleic acid sequence presented as SEQ ID NO:1, or the complement thereof;
 - (b) a nucleic acid sequence that hybridizes, under high stringency conditions to the sequence presented as SEQ ID NO:1, or the complement or a fragment thereof,
 - (c) a nucleic acid sequence presented as SEQ ID NO:2, or the complement thereof; and
 - (d) a nucleic acid sequence that hybridizes, under high stringency conditions to the sequence presented as SEQ ID NO:2, or the complement or a fragment thereof,

wherein said isolated polynucleotide encodes a polypeptide having the biological activity of a cellulase and wherein hybridization is conducted at 42°C in 50% formamide, 6X SSC, 5X Denhardt's solution, 0.5% SDS and 100 µg/ml denatured carrier DNA followed by washing two times in 2X SSPE and 0.5% SDS at room temperature and two additional times in 0.1 SSPE and 0.5% SDS at 42°C.

3. *(Withdrawn)* The isolated nucleotide of claim 1 wherein the nucleotide is selected from the group mRNA, DNA, cDNA, genomic DNA, and an antisense analog thereof.
4. *(Withdrawn)* The isolated polynucleotide of Claim 3, wherein said polynucleotide is an RNA molecule.
5. *(Withdrawn)* The isolated polynucleotide of claim 1 encoding an enzyme having cellulase activity, wherein the enzyme is isolated from a *Trichoderma* source.
6. *(Withdrawn)* The isolated polynucleotide of Claim 5, wherein the enzyme is isolated from *Trichoderma reesei*.
7. *(Withdrawn)* An expression construct comprising a polynucleotide sequence encoding an amino acid sequence having cellulase activity and (i) having at least 85% sequence identity to the amino acid sequence presented in SEQ ID NO:3, or (ii) being capable of hybridizing to a probe designed to hybridize with the nucleotide sequence disclosed in Figure 2 under conditions of intermediate to high stringency, or (iii) being complementary to a nucleotide sequence having at least 85% sequence identity to a nucleotide sequence encoding the amino acid sequence presented in SEQ ID NO:3 wherein the identity is determined by the CLUSTAL-W program in MacVector version 6.5, operated with default parameters, including an open gap penalty of 10.0, an extended gap penalty of 0.1, and a BLOSUM 30 similarity matrix..
8. *(Withdrawn)* A expression vector comprising the polynucleotide of Claim 1.
9. *(Withdrawn)* A expression vector comprising an isolated polynucleotide of Claim 1, operably linked to control sequences recognized by a host cell transformed with the vector.

10. **(Withdrawn)** An expression vector according to Claim 9 comprising a regulatory polynucleotide sequence including a promoter sequence derived from a glucose isomerase gene of *Actinoplanes*, a signal sequence derived from a *Streptomyces* cellulase gene, and a polynucleotide sequence encoding a BagCel cellulase.

11. **(Withdrawn)** A vector comprising the expression construct of Claim 8.

12. **(Withdrawn)** A host cell transformed with the vector of Claim 8.

13. **(Withdrawn)** The host cell of Claim 12, which is a prokaryotic cell.

14. **(Withdrawn)** The host cell of Claim 12, which is a eukaryotic cell.

15. **(Currently Amended)** A substantially purified cellulase polypeptide with the biological activity of a cellulase, comprising ~~a sequence selected from the group consisting of:~~
(a) ~~an amino acid sequence having at least 95% sequence identity to the amino acid sequence presented in Figure 3 (of SEQ ID NO:3); and~~
(b) ~~the amino acid sequence presented in Figure 3 (SEQ ID NO:3);~~
wherein the identity is determined by the CLUSTAL W program in MacVector version 6.5, operated with default parameters, including an open gap penalty of 10.0, an extended gap penalty of 0.1, and a BLOSUM 30 similarity matrix.

16. **(Cancelled)**

17. **(Withdrawn)** A method of producing a cellulase comprising the steps of:

- (a) culturing the host cell according to claim 12 in a suitable culture medium under suitable conditions to produce the cellulase;
- (b) obtaining said produced cellulase.

18. **(Withdrawn)** The method of Claim 17 wherein the host cell is a filamentous fungi or yeast cell.

19. **(Withdrawn)** The method of Claim 17 wherein the host cell is a bacterium.

20. **(Withdrawn)** The method of Claim 19 wherein the bacterium is a *Streptomyces*.
21. **(Currently Amended)** A purified enzyme having cellulase activity prepared by
- (a) culturing a host cell transformed with an expression vector in a suitable culture medium under suitable conditions to produce the cellulase; and
 - (b) obtaining said produced cellulase,
- wherein the expression vector comprises a polynucleotide ~~selected from the group consisting of:~~
- ~~—— (i) a nucleic acid sequence having at least 90% sequence identity to presented as SEQ ID NO:1, or the complement thereof;~~
 - ~~—— (ii) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an a cellulase polypeptide having at least 95% sequence identity to that is operable to express a polypeptide having the amino acid sequence of presented in Figure 3 (SEQ ID NO:3); and~~
 - ~~—— (iii) a nucleic acid sequence which encodes or is complementary to a sequence which encodes an cellulase polypeptide having the amino acid sequence presented in Figure 3 (SEQ ID NO:3);~~
- ~~—— wherein said polynucleotide encodes a polypeptide having the biological activity of a cellulase and wherein the identity is determined by the CLUSTAL-W program in MacVector version 6.5, operated with default parameters, including an open gap penalty of 10.0, an extended gap penalty of 0.1, and a BLOSUM 30 similarity matrix.~~
22. **(Withdrawn)** A recombinant host cell comprising a deletion or insertion or other alteration in the *BagCel* gene which inactivates the gene and prevents BagCel polypeptide production.
23. **(Withdrawn)** An antisense oligonucleotide complementary to a messenger RNA that encodes an BagCel polypeptide having the sequence presented as SEQ ID NO:3, wherein upon exposure to a cellulase-producing host cell, said oligonucleotide decreases or inhibits the production of cellulase by said host cell.

24. *(Withdrawn)* The antisense oligonucleotide of Claim 23, wherein the host cell is a filamentous fungi.

25. *(Currently Amended)* A detergent composition comprising [a] the polypeptide of claim 15, ~~selected from the group consisting of:~~

~~(a) an amino acid sequence having at least 95% sequence identity to the amino acid sequence presented in Figure 3 (SEQ ID NO:3);~~

~~(b) the amino acid sequence presented in Figure 3 (SEQ ID NO:3); and~~

~~(c) a substantially purified biologically active fragment of the amino acid sequence presented as SEQ ID NO:3;~~

~~—wherein the identity is determined by the CLUSTAL-W program in MacVector version 6.5, operated with default parameters, including an open gap penalty of 10.0, an extended gap penalty of 0.1, and a BLOSUM 30 similarity matrix.~~

26. *(Currently Amended)* [A] The detergent composition according to claim 25 further comprising a surfactant ~~and the cellulase according to Claim 15.~~

27. *(Currently Amended)* The detergent composition according to claim 25, wherein said detergent is a laundry detergent.

28. *(Currently Amended)* The detergent composition according to claim 25, wherein said detergent is a dish detergent.

29. *(Previously Presented)* A feed additive comprising the cellulase according to claim 15.

30. *(Withdrawn)* A method of treating wood pulp comprising contacting said wood pulp with a cellulase according to claim 15.

31. *(Withdrawn)* A method of converting biomass to sugars comprising contacting said biomass with a cellulase according to claim 15.

32. **(Withdrawn)** The method of Claim 31 further comprising the generation of high fructose corn-syrup

33. **(Withdrawn)** A method of producing ethanol, said method comprising the steps of:

- (a) contacting a biomass composition with an enzymatic composition comprising BagCel to yield a sugar solution;
- (b) adding to the sugar solution a fermentative microorganism; and
- (c) culturing the fermentative microorganism under conditions sufficient to produce ethanol,

34. **(Withdrawn)** A method of identifying novel enzymes comprising:

- (a) isolating total microbial community DNA from an environment;
- (b) constructing a genomic DNA library in *E.coli*;
- (c) screening the library for expression of cellulase activity;
- (d) identifying the cellulase gene in the cellulase-positive clone; and
- (e) characterising the novel cellulase enzyme.